



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,626	09/19/2003	Fu-Sheng Pai	19730-0005	4032

7590 02/02/2006

Malvern U. Griffin III  
SUTHERLAND ASBILL & BRENNAN LLP  
999 Peachtree Street, NE  
Atlanta, GA 30309-3996

EXAMINER


PARRIES, DRUM

ART UNIT PAPER NUMBER

2836

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/664,626	PAI ET AL.	
	Examiner	Art Unit	
	Dru M. Parries	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 2,6,8 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Hanaoka et al. (6,671,191). Hanaoka teaches an input port having first and second outputs (lines a and b, to the right of C1), and an output port having first and second outputs (c and d), wherein the second input is connected to the second output. He also teaches a switch set (2) connected between the input port and an AC source (inputs to a, b). He goes on to teach a capacitor (C2) having a first end connected to said first input (via T1 and L1), and a second end connected to first output end (via T6 and L2). He also teaches an inductor (L2) having a first end connected to said first input (via T5, T1, and L1) and having a second end connected to first output terminal (right of L2) of converter (1). He goes on to teach an energy converter (1) comprising a storage device (BA and C2), first output terminal, second output terminal (CL1) that is connected to the first output (c, via C3). He teaches the energy converter transferring electrical energy of the storage device into an output voltage to be output so as to stabilize said output voltage when a significant voltage difference of said AC power source occurs (Col. 1, lines 24-30; Col. 4, lines 43-48; Fig. 1). He also teaches the converter comprising an inverter (Col. 2, lines 17-20).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanaoka et al. (6,671,191) and Johnson, Jr. et al. (4,935,861). Hanaoka teaches a power conversion apparatus as described above. Hanaoka fails to explicitly teach the AC input source being a commercial one. Johnson, Jr. teaches the use of commercial AC sources being used with UPS systems (Col. 1, lines 10-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a commercial AC source into Hanaoka invention since it is known in the art to use such sources in UPS systems and no source is explicitly taught in the invention.

5. Claims 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanaoka et al. (6,671,191) and Berglund et al. (6,181,029). Hanaoka teaches an input port having first and second outputs (lines a and b, to the right of C1), and an output port having first and second outputs (c and d), wherein the second input is connected to the second output. He also teaches a switch set (2) connected between the input port and an AC source (inputs to a, b). He goes on to teach a capacitor (C2) having a first end connected to said first input (via T1 and L1), and a second end connected to first output end (via T6 and L2). He also teaches an inductor (L2) having a first end connected to said first input (via T5, T1, and L1) and having a second end connected to first output terminal (right of L2) of converter (1). He goes on to teach an energy converter (1) comprising a storage device (BA and C2), first output terminal, second output

Art Unit: 2836

terminal (CL1) that is connected to the first output (c, via C3). He teaches the energy converter transferring electrical energy of the storage device into an output voltage to be output so as to stabilize said output voltage when a significant voltage difference of said AC power source occurs (Col. 1, lines 24-30; Col. 4, lines 43-48; Fig. 1). He also teaches the converter comprising an inverter (Col. 2, lines 17-20). Hanaoka fails to teach the storage device transferring energy when there is a significant voltage difference in the output voltage. Berglund teaches a UPS system wherein backup power from a battery is transferred to the output when a significant voltage difference in the output voltage is detected (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to monitor the output voltage of the system also, so it adds to the efficiency of the system; in case one voltage isn't detected, there is still another voltage that can be detected to determine a fault in the main source.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanaoka et al. (6,671,191) and Berglund et al. (6,181,029) as applied to claim 7 above, and further in view of Johnson Jr. et al. (4,935,861). Hanaoka and Berglund teach a power conversion apparatus as described above. They fail to explicitly teach the AC input source being a commercial one. Johnson, Jr. teaches the use of commercial AC sources being used with UPS systems (Col. 1, lines 10-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a commercial AC source into Hanaoka invention since it is known in the art to use such sources in UPS systems and no source is explicitly taught in the invention.

***Allowable Subject Matter***

7. Claims 2, 6, 8, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims. No prior art of record taught the switch configurations of these claims within the circuit arrangement of claims 1 and 7.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dru M. Parries whose telephone number is (571) 272-8542. The examiner can normally be reached on Monday -Thursday from 8:00am to 5:00pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on 571-272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMP

1-26-2006



**ROBERT L. DEBERADINIS  
PRIMARY EXAMINER**